

From this table the effect of small changes in i and ω upon the different points can be easily ascertained and a choice made of such changes as will best suit an approximating hyperbola. It may, however, be found necessary to reconsider the conic elements, but the same table can again be used for a final adjustment. Working in this manner I have arrived at the following elements of the orbit, which give a very close agreement at all the places that I have tried, and also give sensibly areas proportional to the times.

T	...	...	...	August 22.61
π	...	...	...	$146^{\circ} 44' 0''$
q	...	...	...	0.629 [9 79865]
Ω	...	...	...	$95^{\circ} 40' 0''$
i	...	...	...	$40^{\circ} 48' 0''$

And the hyperbola which seems to coincide best with the orbit has for its major axis twelve times the mean distance of the Sun and $e=1.052416$.

The elements which are given in the *Astronomische Nachrichten*, No. 2390,

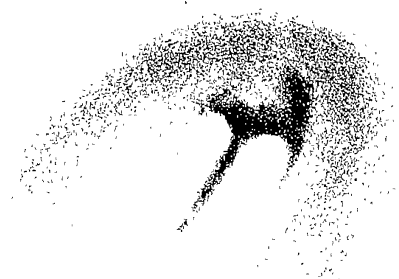
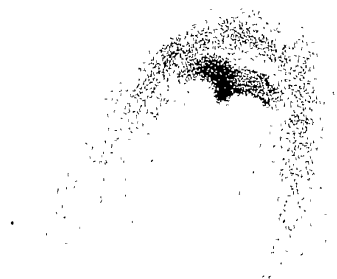
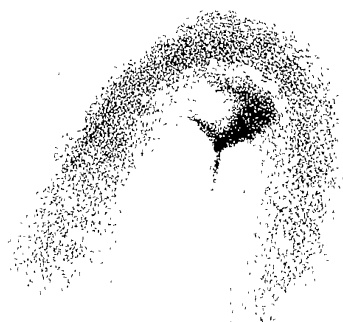
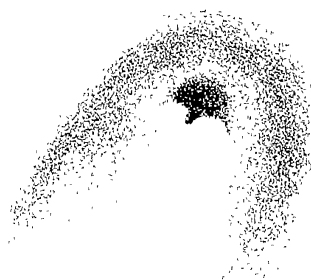
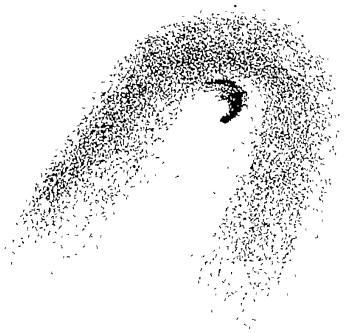
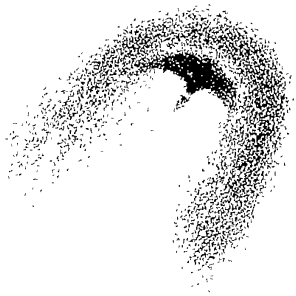
T	...	...	...	August 22.774
π	...	...	...	$218^{\circ} 36' 39''$ or $141^{\circ} 23' 21''$ according to the way it is reckoned.
q	...	...	...	[9.80018]
Ω	...	...	...	$96^{\circ} 25' 48''$
i	...	...	...	$139^{\circ} 50' 17''$ or $40^{\circ} 8' 43''$ according to the way it is reckoned.

Notes on Sketches of Comet b, 1881. By E. B. Knobel, Esq.

June 24.—The head presented a curious unsymmetrical form : an irregular fan, much developed on the following side, and with little extension on the preceding side ; emanating from this in the direction of the tail, was a bright ray, as shown in the sketch made that evening. The brightest portion of the fan was that in front, or nearest the Sun. The nucleus was eccentrically situated in the fan, on the preceding side of the bright ray, which certainly did not radiate from the nucleus. An envelope, apparently of irregular form, surrounded the fan, the curve of which was not symmetrical with the head ; exterior to this was the parabolic envelope.

June 29.—The ray seen June 24 had disappeared. The fan was more symmetrical in shape, and the brightest portion was on the preceding side of the nucleus. On this date, at about 11.15, the nucleus passed very close to a 7.4 mag. star, Rad. 1661.

COMET b 1881.

*June 24 11hrs.**June 29. 12hrs.**June 30. 11hrs**July 1. 11hrs.**July 3. 12hrs**July 4. 10hrs.**July 6. 11hrs**July 11. 10½hrs.*

A series of measures of distance, taken one after the other as rapidly as possible, gave:—

16^{''}5

18·9

20·3

20·6

The motion of the Comet was so perceptible and so rapid that accurate measures were impossible. The intervals of time between the measures were not noted.

June 30.—The appearance of the Comet had much changed; the brightest portion of the fan was on the following side. A small ray or brush of light, slightly inclined to the direction of the tail, emanated from the nucleus. There appeared to be a bright space in front and surrounding the fan, and exterior to this a dark envelope.

July 1.—The fan appeared smaller and symmetrical; the nucleus small and stellar.

July 3.—The nucleus was very small. The fan appeared to be reduced to a curious wisp, springing from the nucleus and curved towards the preceding side.

July 4.—The fan is symmetrical and somewhat resembling the appearance on June 30, with the brightest portion on the following side.

July 6.—The fan is symmetrical, the central portion being the brightest, and resembling the curved wisp observed July 3. A slight brush of light was noticed emanating from the nucleus in the direction of the tail.

July 11.—The fan small and reduced to a very similar appearance to that noticed on July 3.

Observations of Mimas, 1881. By A. A. Common, Esq.

I give below some conjunctions of *Mimas* with end of ring, as observed with the three-foot reflector.

G. M. T.
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Nov. 15, at 12 43, *Mimas* was seen approaching *sf* conjunction, and level with division in ring.

12 59, not up.

13 11·5, just seen nearly up, and not seen again (though looked for during half an hour), although no difference could be seen in the sky to account for this.

Nov. 17, at 10 20, *Mimas* not yet up.

10 22, steadily seen, not up.

10 24, up to *sf* conj.

10 29, past.